



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,429	09/17/2004	Terrence M. Fulkerson	11694/04384	5428
27483 7590 12/24/2008 CALFEE, HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114				
EXAMINER BERTHEAUD, PETER JOHN				
ART UNIT 3746		PAPER NUMBER		
NOTIFICATION DATE 12/24/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocket@calfee.com  
dcunin@calfee.com

### Office Action Summary

**Application No.**

10/711,429

**Applicant(s)**

FULKERSON ET AL.

**Examiner**

PETER J. BERTHEAUD

**Art Unit**

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4, 8, 9, 18-20 and 27-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 4, 8, 9, 18-20 and 27-32 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/20/2008  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office action is in response to amendments filed 9/16/2008. It should be noted that claims 1, 27, and 28 have been amended, claims 2-3, 5-7, 10-17, and 21-26 have been cancelled, and claim 32 is new.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 8, 9, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi 6,227,768 in view of Farrell 6,939,088, and in further view of Ray, Jr. 3,951,572.

Higuchi discloses a pump for dry particulate material, comprising: a pump chamber 11 through which material flows, said pump chamber defined in part by a gas permeable member 14 comprising a gas permeable wall; said gas permeable wall 14 having an exterior surface that is exposed to pneumatic pressure (via 15) during pump operation and an interior surface that is exposed to the material 19. Higuchi further discloses a metering means (26) for distributing the material. However, Higuchi does not teach the following claimed limitations taught by Farrell and Ray, Jr.

Farrell teaches a pneumatic transport air shifter comprising: a pump chamber (see inside of housing 20) through which an object 140 moves, said pump chamber

defined in part by a gas permeable member 50 comprising a gas permeable wall; wherein during pump operation gas is drawn out of said chamber (50) to draw the object 140 into said chamber under negative pneumatic pressure and pressurized gas flows into said chamber to push the object 140 out of said chamber under positive pneumatic pressure (see col. 4, lines 52-56). Farrell also teaches that the gas permeable member 50 permits gas to flow into and out of said pump chamber through which the object flows. Farrell further teaches a control circuit that adjusts duration of time that the negative pressure is applied to the pressure chamber (see col. 4, lines 5-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the pump assembly of Higuchi by having positive and negative pressures move material into and out of the pump chamber, as taught by Farrell, in order to move only a desired amount of material at a time. Thus, it would also be obvious that the flow rate of material could be controlled as a function of duration time of said negative pressure. In addition, although it's not specifically stated, positive and negative pressures are at work when moving the material in Higuchi, making Farrell more of a teaching reference.

Ray, Jr. teaches an apparatus for pumping comprising: a first pinch valve 10 and a second pinch valve 10' wherein each said pinch valve comprises a member 42', 42" that defines part of a flow path for material through the pump, and wherein said pinch valve members 42', 42" open and close in response to pneumatic pressure applied thereto. Ray, Jr. also teaches that at any given time one of the pinch valves is a suction pinch valve and one is a delivery pinch valve, said pinch valves having open/closed

times that are separately controllable from the pump cycle. Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pump assembly of Higuchi by implementing a metering system using pneumatic valves that move a material to an outlet, as taught by Ray, Jr., in order to control the flow of material from the pump chamber independent of the pump cycle duration (or separately actuated from the pump).

In reference to claims 8 and 9, Higuchi in view of Farrell and Ray, Jr. discloses the claimed invention except for there being a second pump chamber and third and fourth pneumatic pinch valves; wherein material is transferred to a common outlet by alternate flow through said first and second pump chambers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement a second pump chamber with respective pinch valves, since such a modification would amount to a mere duplication of parts. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)) (see MPEP 2144.04 VI. B – Duplication of Parts). In addition, Ray, Jr. teaches that it is well known in the art to transfer material to a common outlet 14 by alternate flow through two pump chambers in order to create a more constant flow (see abstract).

4. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi 6,227,768 in view of Farrell 6,939,088, and in further view of Ray, Jr. 3,951,572, and still in further view of Feygin 5,273,406.

Higuchi in view of Farrell and Ray, Jr. discloses the invention as discussed above. However, Higuchi in view of Farrell and Ray, Jr. does not teach the following claimed limitations taught by Feygin.

Feygin discloses first and second pinch valves that can be independently actuated open and closed with respect to each other (see col. 5, lines 21-24). Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pumping assembly of Higuchi in view of Farrell and Ray, Jr. by making the pinch valves capable of being independently actuated with respect to each other, as taught by Feygin, in order to have even more control over the flow of material from the pump chamber.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 4, 8, 9, 18-20, and 27-32 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER J. BERTHEAUD whose telephone number is (571)272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/  
Primary Examiner, Art Unit 3746

PJB  
/Peter J Bertheaud/  
Examiner, Art Unit 3746